

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-16. (canceled)

17. (new) A method for producing a local temperature increase within a body of material using focused sound signals in a target region, wherein the target region comprises a volume situated proximate to the focus of the focused sound signals, said method comprising:

generating a sound signal in the target region by radiating the sound signal from a sound emitter in response to a pressure-time signal such that a pressure-time course of the sound signals in the target region is not sinusoidal and such that a magnitude of the pressure amplitude of the sound signal in the target region is larger than the expansion amplitude of the sound signal in the target region, wherein the pressure-time signal is not a single sinusoidal pressure-time signal; and

adapting the pressure-time signal such that the pressure-time course of the sound signals in the target region is adapted to a specific utilization of the non-linear propagation and attenuation properties of the material in the target region such that an increase in the

temperature in the target region produced by the adapted pressure-time signal is greater than a temperature increase produced by a sinusoidal pressure-time signal having the same power.

18. (new) The method of claim 17, wherein the pressure-time course of the sound signal radiated from the sound emitter includes several superimposed mono-frequency signals.

19. (new) The method of claim 17, wherein the pressure-time course of the sound signal radiated from the sound emitter includes asymmetrical sound signals.

20. (new) The method of claim 17, wherein the pressure-time course of the sound signal radiated from the sound emitter includes frequency-modulated chirp signals.

21. (new) The method of claim 17, wherein the pressure-time course of the sound signal radiated from the sound emitter includes asymmetrical sound signals superimposed with at least one mono-frequency signal.

22. (new) The method of claim 17, wherein the time-pressure course of the sound signal radiated from the sound emitter includes frequency-modulated chirp signals superimposed with at least one mono-frequency signal.

23. (new) The method of claim 17, wherein the step of generating is effected on biological materials containing the target region.

24. (new) The method of claim 17, wherein the step of generating is effected on one of technical and industrial materials containing the target region.

25. (new) The method of claim 17, wherein said step of generating comprises effecting an extra-corporal treatment on living beings containing the target region.

26. (new) The method of claim 17, wherein said step of generating includes effecting a minimal evasive treatment on living beings containing the target region.

27. (new) The method of claim 17, wherein said step of generating comprises focusing the sound signal using a self-focusing arrangement.

28. (new) The method of claim 17, wherein said step of generating comprises focusing the sound signal using a reflector-focusing arrangement.

29. (new) The method of claim 17, wherein said step of generating comprises focusing the sound signal using a lens-focusing arrangement.

30. (new) The method of claim 17, wherein said step of generating comprises producing a pressure-time course in the target region using a piezoelectric emitter equipped with piezoceramics with natural resonances which differ from one another, for producing at least two different sound signals acting simultaneously in the target region.

31. (new) The method of claim 17, wherein said step of generating comprises producing the pressure-time course in the target region using a piezoelectric emitter having at least two zones for producing at least two different sound signals acting simultaneously in the target region.

32. (new) The method of claim 17, further comprising the step of providing an ultrasound image using a picture-providing method.